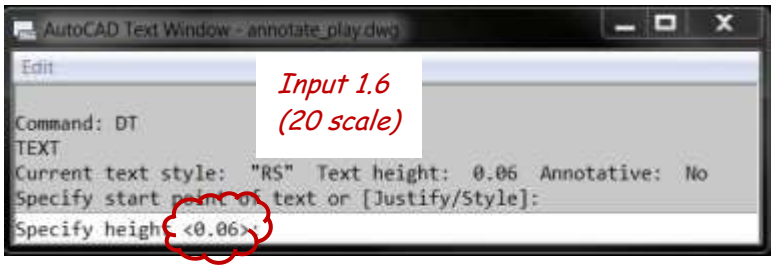
Annotation Anger Management

Interesting Fact? (according to Internet…lol):

How to Enable Annotative Scaling in AutoCAD 2014 - By Bill Fane from AutoCAD 2014 For Dummies
"Annotative objects were introduced in AutoCAD 2008, ending 25 years of calculating agony, but a quick show of hands in classes at Autodesk University and AUGI CAD Camp reveals that only 20 percent of students, on average, have ever tried using annotative objects — and most of the students abandoned them to return to the old way, in the belief that they weren't working."

In the Beginning…

For years I have recommended that the height in the Text Style command be set to "0" so you would be prompted for the text height while starting the Text and Mtext commands based on the plotted viewport scale that would determine the size of text you would use.



For example, if your viewport scale is 1"=20' and your small text size (notes, etc.) in paper space is 0.08" then the model space text height needs to be 1.6" (20 x 0.08 = 1.6). Once you know that, then you know your Subtitles would be 1-1/2 x 1.6 or 2.4" and your Titles would be 2 x 1.6 or 3.2". This is fine if you only have 1 or 2 different scales. However, if you decide you need to change that 20 scale to a 50 scale then you would need to fix all those dimensions. You may want to show a close-up of an area on the project at a scale of 1"=5'. If you want to show dimensions or text in both viewports on the same object, you may have created two styles or sizes, one for each scale. The problem is that you must carefully manage those multiple copies of the same thing. You would probably control their visibility in each viewport using layers, turning them on and off in the different viewports. And, if you want to change the text or dimensions, you would have to edit each dimension or text twice; once for each of the objects.

This is where Annotative Objects comes in

So they have been around for a while, since version 2008. When you think Annotative Objects seems evil, realize that you are in the majority. Annotation, though it requires a little work up front, the results are well worth it in the long run. And you already use Annotative Objects…Civil 3D uses Annotative Objects through Label Styles.

Annotative Objects

You can apply annotative scaling functionality to any of these following object types:

1) Text (Text, Mtext)
2) Dimensions
3) Multileaders
4) Hatches
5) Blocks
6) Attributes

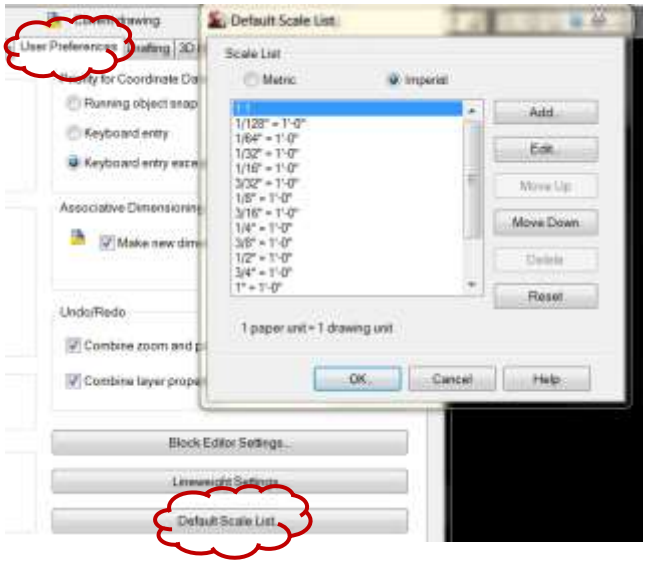
We will be looking at the first five.

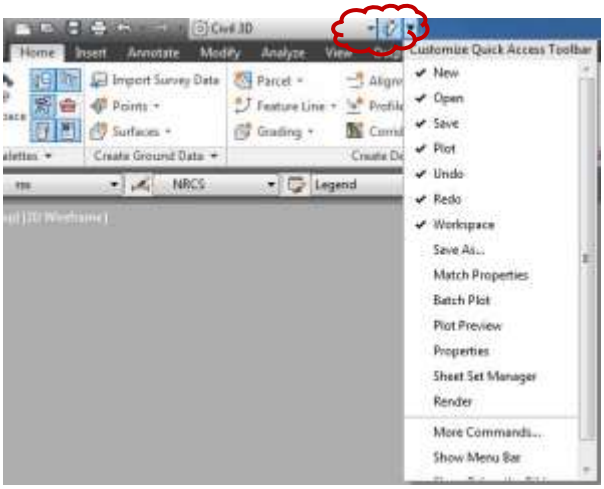
I am so excited, Let's get started

To mention a few odds and ends first:

You should have received a zip file containing the template that is used that has the Annotation styles set up. There will be some system variables that you will need to change yourselves as this is computer specific and not through the template. The documents are for your reference, but feel free to contact me with any questions that this reference does not answer or that need clarification. I may not follow this exactly so I would suggest not following it too closely during the webinar.

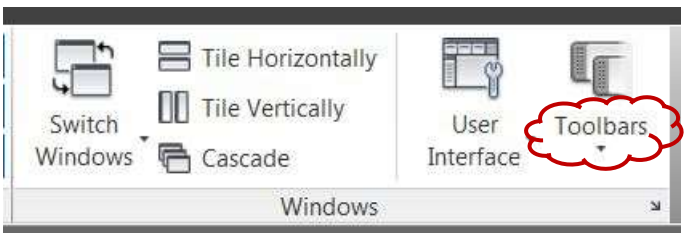
There is a Scale List and a Default Scale List.
To run through the scales, choose Scale List on the Annotation Scaling panel of the Ribbon's Annotate tab. If you make a mistake, pressing the Reset button restores all default scales from your Default Scale List, accessible from the User Preferences tab of the Options dialog box. When I was writing this up I realized that my Default Scale List did not have the Engineering Scales listed so that is something you may want to do. Also if you have any customized scales, you may want to add them to the Default Scale List as well. This also does not show up on the template. If you do not use the Architectural Scales then you can remove them…but beware, you may someday want to use one of those scales so think about it before you delete it. Then you can press the reset button and restore the default scales from the Scale List in the Ribbon's Annotation Tab.





Bonus Tip 1: Updating Quick Access Toolbar

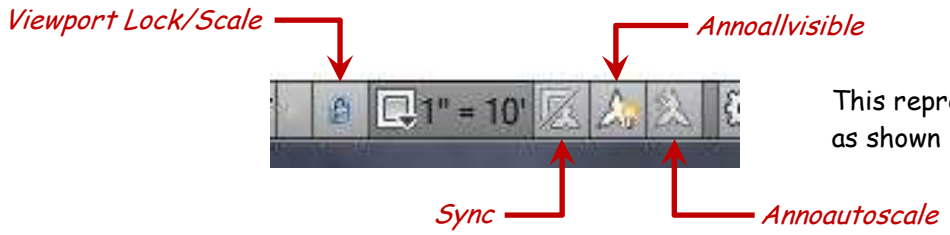
Bonus Tip 2: View Tab on the Ribbon to access the old toolbars that some of us old timers still love to use (ie; Styles)



Annotation Scaling Tools

To begin using the annotation scaling functionality, you will need to familiarize yourself with several annotation scaling tools including the Viewport Lock, Viewport Scale, and Annotation Scale. To see all the tools, I will actually start in paper space and make some viewports. In the lower-right corner of the AutoCAD status bar, you find three buttons with the symbol of triangle. They represent the end view of an engineer's or architect's triangular scale; someone who has been around forever should be able to show you what one looks like and how they worked, oh wait…that's me).

The Annotation Scale is displayed on the Status Bar when the Model Space tab is active. The Annotation Scale sets the CANNOSCALE system variable, which is what tells AutoCAD the scale to use when creating annotations (and is initially set when you create the first annotative object in the drawing).



This represents the Status Bar as shown in Paper Space

Annoallvisible:

- On- All annotative objects are displayed.
- Off- Only annotative objects that support the current annotation scale are displayed

Annoautoscale:

- On-When the status indicator is in this mode, new scale representations are created automatically if the annotation scales changes.
- Off-When the status indicator is in this mode, scale representations are not created automatically as the annotation scale changes. ANNOAUTOSCALE is turned off by default to keep file size down and improve performance.

The Viewport Lock is displayed on the Status Bar when a layout viewport is selected or active. You can lock and unlock a viewport using this button or using other methods, including the right-click menu and the Properties or Quick Properties palettes. Locking a viewport after setting an appropriate viewport scale prevents you from inadvertently zooming or changing the scale.

The Viewport Scale is also displayed on the Status Bar when a layout viewport is selected or active. It enables you to view and edit the scale at which the active viewport is displayed. You can change the viewport scale using this button or using other methods, including the Viewports toolbar and the Properties or Quick Properties palettes.

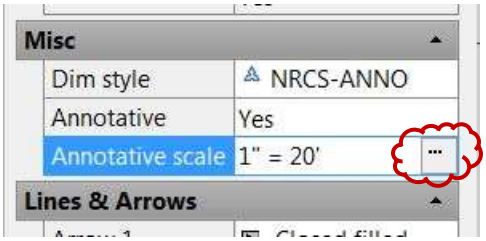
Changing the same annotative object location at one scale will not affect that same annotative object location at a different scale. You can use the ANNORESET command to reset the location of all scale representations for an annotative object to that of the current scale.

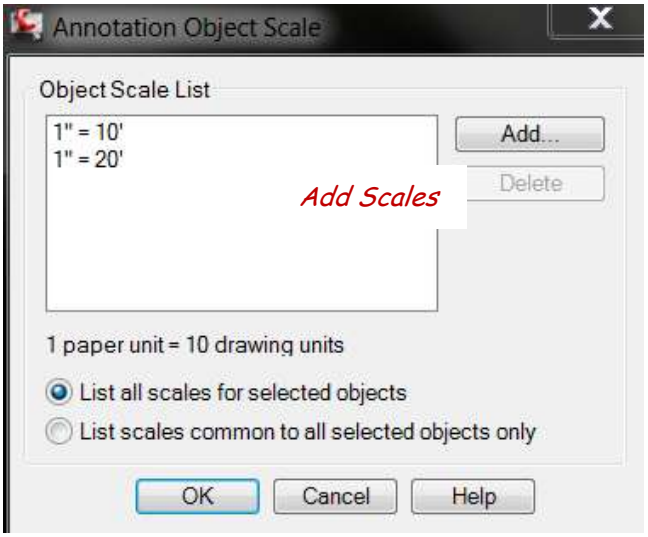
Typically, you want AutoCAD to assume an annotation scale that is the same as the viewport scale. When you set either the Viewport Scale or Annotation Scale using the tools on the Status Bar, AutoCAD automatically updates both the viewport and annotation scale, keeping them in sync. When a Layout tab is active, if you change the viewport scale by zooming, however, the viewport and annotation scale can get out of sync. In that case, the Sync button becomes active; clicking this button resets the viewport scale so that it once again matches the annotation scale.

As you create your various annotative objects, simply set the scale factor to the one that you plan to use in your paper space layout. If you plan to display an object at two different scale factors -- no problem! You can easily

assign multiple scale factors to one annotative object by using the Annotative Scale option in the Properties palette (see below).

Select Object to open Properties Dialog Box





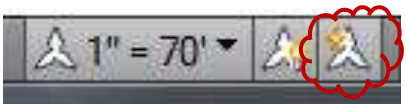
Tip: You'll find that it pays to plan ahead and assign the various scale factors you will use.
Tip: It's easy to lock and unlock a viewport for scaling with the lock icon on the status bar.

You can scale your viewports to any value, but by default your annotative objects display only if they have the correlating scale factor assigned to it. This will definitely freak you out when you change your scale factor to an option not supported by the annotative objects and they disappear from the screen. To display the objects, regardless of their correlating scale factor, you can turn on the new Display option (second from the right). But, remember that if you want an object to display and it doesn't, you should assign the proper annotative scale factor to it (see ObjectScale above).

Annotative Objects for the Lazy (Like Me)

The Annotative tool on the far right of the status bar is a true lifesaver. Let's say you aren't so good at planning ahead. Let's say you aren't sure which scale factors you need to assign to each annotative object. No problem. You use the last of the new annotative options on the status bar to add them as you go. Every time you change the scale factor of a viewport (or in model space); the new scale factor is added to each annotative object. Fabulous! Don't go crazy here; you can imagine the overhead to your drawing if you have 20 different scale factors assigned to each annotative object.

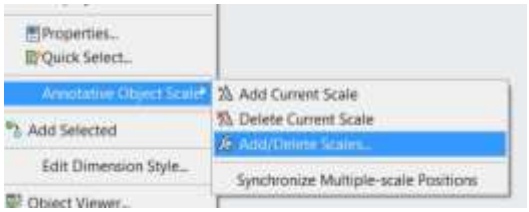
Status Bar

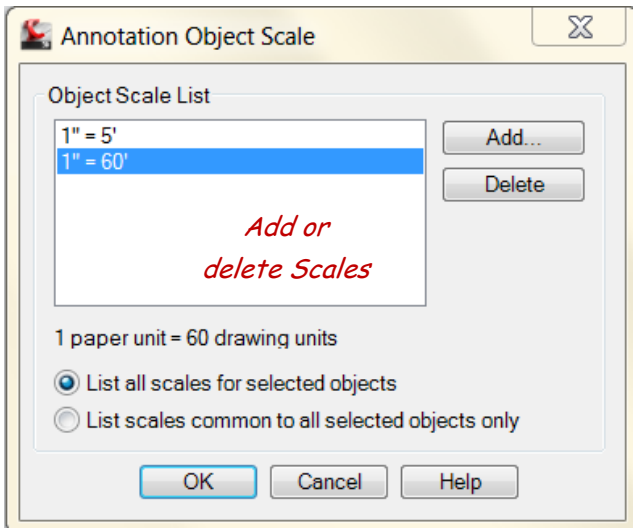


Make it easy on yourself and use and add scales as you go with the automatically add scales icon on the status bar. (Remember too many can scales may affect performance)

You can easily add and remove scale factors for individual annotative objects as you right-click on an object and select Add/Delete Scales from the shortcut menu. This makes it easy to display an object in one viewport but not in another (something we controlled with layers in a previous life).

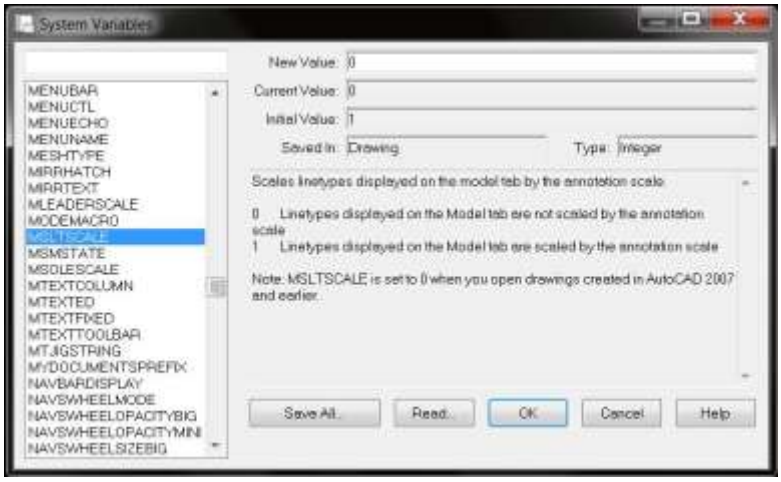
Right click on annotative object





System Variables: (to be aware of)

- Annoallvisible – Hides or displays annotative objects that do not support the current annotation scale (1 is on)
- Annoautoscale – Automatically adds scales when you change the annotation scale (when on)
- Annotativedwg - Specifies whether or not the drawing will behave as an annotative block when inserted into another drawing (1 is on)
- Cannoscale - Sets the name of the current annotation scale for the current space
- HPAnnotative – Controls whether or not a new hatch pattern is annotative. (1 is on)
- MSLTscale – Scales line types displayed on the model tab by the annotation scale (1 is on)
- PSLTscale – Controls the linetype scaling of objects displayed in paper space viewports (1 is on)
- Selectionannodisplay – will show or hide multiple annotative scales (0 is off)



Express Tools from the Ribbon

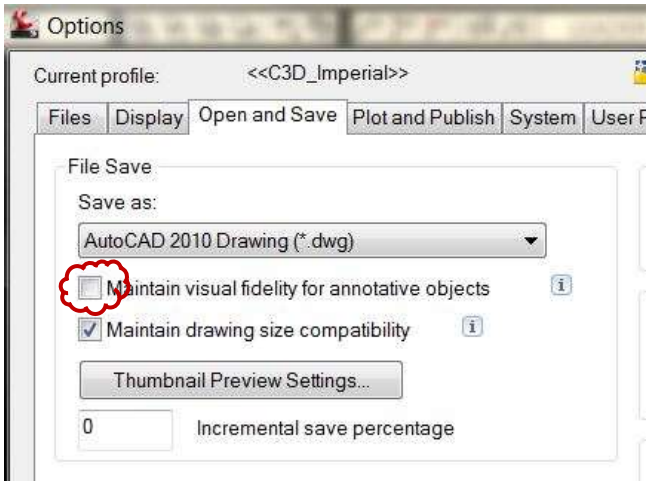
Select:

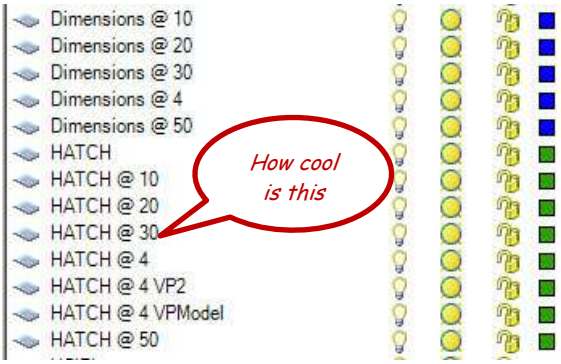
- Express Tools
- Tools
- System Variables Editor…

System Efficiency Tips:

MAINTAIN VISUAL FIDELITY = off

Saving to an earlier version of AutoCAD (2007) that does not have annotation objects will separate each scale into onto its own layer like we used to do. All this will be done automatically as long as you have the Maintain visual fidelity for annotative objects selected in the **Options** dialog box. However, almost everyone has a later version of AutoCAD than 2007 so this should not be an issue.





ANNOAUTOSCALE = off (see page 4)

ANNOAUTOSCALE is turned off by default to keep file size down and improve performance. It does improve performance but can make things easier for some…you decide.

I discovered that the toughest thing about annotation scaling might be that it is TOO EASY (or not)!